UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

VIACOM INT'L INC., ET AL., Plaintiffs, v. YOUTUBE, INC., ET AL., Defendants	ECF Case Civil No. 07-CV-2103 (LLS)
THE FOOTBALL ASSOCIATION PREMIER LEAGUE LIMITED, ET AL., on behalf of themselves and all others similarly situated, Plaintiffs, v. YOUTUBE, INC., ET AL., Defendants.	ECF Case Civil No. 07-CV-3582 (LLS)

DECLARATION OF MICHAEL SOLOMON IN SUPPORT OF DEFENDANTS' OPPOSITION TO PLAINTIFFS' MOTIONS FOR SUMMARY JUDGMENT

I, Michael Solomon, pursuant to 28 U.S.C. § 1746, hereby declare as follows:

1. I am currently a Senior Staff Engineer at YouTube, Inc. ("YouTube"). On March 3, 2010, I executed a declaration in support of YouTube's motion for summary judgment in this case ("Opening Declaration"). In addition to the aspects of my YouTube-related work that I described in my Opening Declaration, my work at YouTube also focused on improving the scalability of the website in light of the always increasing traffic that the site experienced. I have read the materials that Viacom submitted in connection with its motion for summary judgment that discuss the

technical operations of YouTube and submit this declaration in response to certain assertions that Viacom has made. I have personal knowledge of the facts set forth herein and, if called as a witness, I could and would testify competently to them.

Processes Automatically Initiated When a User Uploads or Views a Video on YouTube

2. As I explained in detail in paragraphs 6 to 10 of my Opening Declaration, several processes are automatically initiated when a user selects a video and uploads it to YouTube. These include the processes for transcoding and storing videos, as well as making them available for viewing at the request of visitors to the YouTube website.

Viewing YouTube Videos though Third Party Platforms

3. When a user chooses to view a YouTube video from his personal computer, his mobile phone, or from another consumer electronic device, playback of that video is initiated at the user's request. To enable YouTube users around the world to view videos on the site from platforms other than Internet browsers, YouTube developed application protocol interfaces ("APIs") and provided them to third parties that created other platforms to access YouTube, such as Apple, Sony, Panasonic, and TiVo. APIs are not specific to YouTube, they broadly describe the class of software that enables system-to-system, computer-level communication. In this instance, the instructions include advising third parties on how to configure their software so that it communicates with YouTube in the way needed to access and playback users' stored videos. Specifically, it enables these systems to tell YouTube – in connection with a user's request for a video playback –which file format the video should be served in so that the video can be viewed by the user, much like what happens when a user requests a video playback using a standard Internet browser. Once the request is received, the YouTube system automatically serves the video in

the format requested. As YouTube entered into agreements to make YouTube videos accessible on different platforms, the system was setup to automatically re-encode videos so that they would be playable on these new systems, such as the iPhone, which did not support the existing file formats. The system did this by starting with the most popular videos, such as that were "most viewed," and working through the catalog until the process was complete.

4. As I have explained, when a user submits a playback request for a certain video, that video is streamed to the user's personal computer or other device. In the context of a personal computer, if a user's Internet browser is configured in certain ways, the video streamed may remain in the user's Internet browser cache. A browser cache a method of temporarily storing data so that future requests for that data may be complied more quickly by the local computer. The browser cache does not discriminate with regard to the data is stores. That is, no matter which website a viewer visits and no matter what he views, if the browser software is configured to store what the viewer is viewing, it will be temporarily stored. Whether a viewed YouTube video remains on a user's computer, and for how long, is wholly dependent on how the user's Internet browser cache is configured to store information, and has nothing to do with the operation of the YouTube system, which is not designed to allow for downloading of videos uploaded in the normal course. Moreover, with regard to a video that has been streamed from YouTube to a system set to temporarily save material to the cache, the cached version of that video may or may not be complete depending on whether the user allows the streaming process to finish.

5. With regard to how YouTube streams videos to users who request videos for playback, at most points throughout its history YouTube has utilized a content distribution network ("CDN") in order to increase the efficiency of that process and to lessen the burden on the YouTube system. A CDN is an automated file-serving

infrastructure that helps companies like YouTube respond to the requests of a large number of users distributed across a wide geographic area. An example of a CDN that YouTube has worked with is Limelight Networks. In working with LimeLight, the YouTube system operated as it normally did, except that it employed an algorithmic formula to mathematically determine that streaming certain videos to users was more efficiently handled from LimeLight's CDN than from YouTube's regular video servers. Specifically, the algorithm analyzed the size of the user's stored video file and the frequency with which the file was requested for viewing by YouTube users. YouTube colloquially referred to the videos identified by the algorithm as "popular" videos. The YouTube system would "flag" these identified videos, designating them to be served to requested users via LimeLight's CDN. By serving such videos in conjunction with a CDN, the burden on the YouTube system was decreased and the user's experience was enhanced by speeding playback. Although YouTube has used other CDN systems, they have all operated on the same fundamental principles.

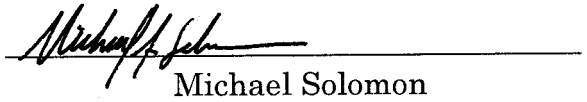
Other Automatic Operations of the YouTube Website Based on User Input

6. The YouTube system automatically keeps track of certain generic information for the hundreds of millions of videos users have uploaded to the website. This includes the number of times the videos have been watched and the number of times users have "favorited" them. To allow our users to more easily discover content that might be of interest to them, automated lists of "most viewed," "top favorites" and so on are presented to users. The YouTube system relies on the aggregated data produced by its users interacting with the website to automatically populate these lists. YouTube employees are not actively involved in selecting the videos that fall into these categories.

7. At various places throughout the YouTube website, the YouTube system also shows "thumbnail" images of videos alongside text supplied by the users who uploaded them. This takes place on various pages of the YouTube site, including the search results page and video watch pages under the heading "related videos," at the end of videos after users view them, and has been part of a feature called "videos being watched now." A thumbnail image is a still image created from a frame in an uploaded video that is used to represent the video so that users can see what the video is.

8. No matter where (or how often) a thumbnail image appears on the site, it always functions as a link back to the stored video uploaded by the user. The thumbnail image is not itself a copy of the video and no copy of the video is made to create the image used to represent the video. Rather, the thumbnail image is extracted during the upload process. When a video is uploaded, the YouTube system automatically creates three thumbnail images of that video, one from the beginning, one from the middle, and one from the end of the video. The uploading user is then allowed to choose which of those thumbnails will represent the video on the YouTube service. As with the "top viewed" and "top favorites" lists, the search system, the related videos feature, and the videos being watched now function, these thumbnails would not exist without user interaction and YouTube employees are not actively involved in selecting the thumbnails that appears in connection with these functions of the website.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct and that this declaration is executed the 28th day of April 2010, at Palo Alto, California.



Michael Solomon